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ABSTRACT

This paper examines the context of critical reading and considers how it can best be taught. The paper also includes some reflections on the current "state of the art" in critical reading in an English for Special Purposes (ESP) or English as a Second Language (ESL) context. The paper details a series of attempts to develop a set of questions that can be used in teaching critical reading, and introduces "set theory" (a math concept) to ESP. The paper suggests six steps for the use of set theory in the teaching of reading, as well as a set of questions which systematize and break down some sub-skills in critical reading: (1) comprehension questions; (2) readership questions; (3) reader's appreciation; (4) text applicability; and (5) text or writer questions. The paper argues that: critical reading is an essential part of the genuine response to text; there is a need for teachable techniques for helping readers to learn how to react critically to texts; critical reading can and usually should be done on all text types, from poems to telephone directories; and critical reading is applicable not only to a detailed level of comprehension but also to general and to main points comprehension. (Three figures of data are included; a list of "Dishonest Tricks," 9 notes, and 17 references are attached.) (RAE)

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WORKING PAPER No. 20

TEACHING CRITICAL READING THROUGH SET THEORY

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INTRODUCTION

This paper starts by examining the context of critical reading, so as eventually to consider how it can be taught, as suggested in the title. The contextual aspects include some wider considerations of educational purpose and philosophy, and reflections on the current "state of the art" in critical reading in an EFL context. We then consider a series of attempts to improve matters, and in so doing introduce "set theory" to ESP.

1. DEFINITION

This paper is about critical reading, inserted within critical thinking. The word critical itself usually carries a negative connotation, but of course it need not: in this paper the term "critical reading" will refer to

> **a decision-making process accompanying reading, a process which involves rational assessment as well as affective reaction.**

The outcomes of critical reading may include approval and agreement as well as rejection. The main outcome aimed at is heightened awareness.

2. CLAIMS

The central claims of this Working Paper are:

a) Critical reading is an essential part of the genuine response to text.
b) There is a need for teachable techniques for helping readers to learn how to react critically to texts.
c) Critical reading can and usually should be done on all text types from poems to telephone directories.
d) Critical reading is applicable not only to a detailed level of comprehension but also to general and to main points comprehension.

The intention is to discuss these claims and outline an approach which may go some way towards providing teachable techniques.

3. ON ARTIFICE

Although foreign language teaching has for some time paid lip-service to the notion "communicative", encouraging authenticity in response to oral tasks and in choice of texts for reading, many activities are clearly not authentic[2] (Widdowson, 1978:80). The learner is placed, often enough, in a somewhat artificial role (for example, when "role-playing" or reading a text selected by her teacher). Comprehension questions often do not help in this

> Did Anne give the elephant a bun or a peanut?
> Where did John buy the spaghetti?
> According to the text, what are the main types of bridge?

Artificiality ranges then, through from "grammar for grammar's sake" (grammatiquice) via role-play and comprehension questions to genuine response, orally and in reading and writing.

This is not to argue, of course, that the only useful or desirable activities are the authentic ones, or indeed that it is possible to construct a teaching programme which is exclusively authentic. However, it seems evident that **default** activities should be authentically communicative, and that the onus is on the teacher or materials designer to justify those which are non-authentic.

The problem, of course, is that the whole teaching context does not make for authenticity. Organizing the simultaneous study of the same subject-matter by 30 individuals can hardly be conducive to authenticity of participation (Scott, 1984). Anyway, the aim is to prepare pupils to have the ability to act authentically using the foreign language, and that does not entail always using tasks which involve authenticity of participation.

Nevertheless, it is our contention that one should be on the lookout for ways of encouraging authentic language behaviour, since it is likely that a authentic need to communicate will correlate with degree of enthusiasm and effort, as well as with results obtained.

Critical reading is of course an example of authentic language behaviour. When one leaves the cinema, the usual questions are "What did you think of the film?", "Did you like it?", etc. - not "Where did the hero buy the spaghetti?". In EFL classrooms we usually ask questions of the latter sort (testing comprehension). If we do ask questions of the former type, we are engaging in authentic language behaviour. In the sections below, we shall be examining some of the ways in which we may **help** our students to engage in such authentic language behaviour - though to do so, we shall have to teach them about sets, and forming explicit sets itself is not authentic language behaviour.

We hope thus to get to authenticity through a training process which itself is not authentic.

4. ON PARTICIPATION

A second aspect of the theme is participation. We live increasingly in a world of experts in which we ordinary citizens are reluctant to use our voices. In 17th Century England, if there was a hole in the road in front of a citizen's house, he was expected to fill it in for himself. Nowadays the experts are called in to do the job for us. It is an advantage to have experts who have been properly trained and have the right equipment, and the quality of road surfaces and much else has gone up quite a lot since the 17th Century.

So we have specialists to advise us on legal problems, to cure or prevent our bodily ailments, to mend holes in the roads, and to organize our collective and individual finances. Every so often we vote for specialists in decision-making to take decisions for us, too. Though whether this is a sign of progress is a moot point, when one considers the procedures of democracy in ancient Athens.

Such a specialist world calls of course for further special-

ists, employed to explain and comment on the decisions of the others. Hence journalists. And teachers.

In a crowded and technologically complex world there is no return to a pre-specialist golden age. Life in medieval "Merrie England" was probably not very merry (in the 17th Century Hobbes[4] described the life of man as "solitary, poor, nasty, brutish, and short"), and in classical Athens the slaves, after all, had no voice at all in decision-making.

We cannot do away with specialism, nor can we all become specialists in everything (a Greek and a Renaissance ideal). So much of our way of living, from gathering food to political decision-making is now largely out of the individual's control. Those who **do** control each tiny facet (including ESP teachers) have vested interests, and these can very naturally conflict with true full participation by consumers. If there is any truth in this picture, it follows that the "information explosion" is proportional to our inability to judge it, for each individual's **area** of competence has shrunk as its **depth** has increased, and vested interest holds some sway over its availability and its presentation. The global village increases linkage and at the same time decreases participation.

The natural wish of those who benefit most from the status quo will thus be to encourage literacy, the tool of necessary productive competence, while discouraging (or not encouraging) critical thought about the world. It is uncomfortable to have to explain a complex reality (for example the issue of nuclear versus non-nuclear energy supplies) to non-specialists. Much easier - and much more usual - to concentrate on packaging an **image**.

This is beginning to look like a conspiracy theory. Fortunately, though, there are vested interests operating in favour of critical thinking. Journalists do not only promote images, and do not have to wrap bitter pills in colourful packaging. Educators also do not **need** to act as bulwarks of the status quo.

The satisfactory development of our world, in fact, depends in part on educators encouraging literacy **and** critical thinking, for a succeeding generation will have to cope with new problems and this coping will require critical thinking abilities. Just as Henry Ford discovered that it pays to pay workers well enough to become consumers, overthrowing the contemporary Taylorist theory that workers should receive no more than a near-starvation minimum, so it is clear that critical thinking is productive (as well as a nuisance to the status quo). Finding solutions to pressing social and technological problems therefore requires a critical thinking capacity on the part of increasing numbers of people.

5. THE EFL CONTEXT

The EFL context can be summed up, roughly, as follows: critical reading has never been taught. Never is never true, of course, and like most generalizations this one sweeps the exceptions over-confidently into the bin; but the statement can be defended all the same. The typical EFL course book usually practises critical reading (it does not teach it) merely by asking pupils to discuss the topic developed in the reading text.

Thus Dubin and Olshtain's (1981) Reading by All Means which consciously attempts to present "reading improvement strategies for English language learners" (the book's subtitle) and which otherwise represents the "state of the art" in general EFL reading texts, makes no mention at all of critical reading in the preface where the book's structure is described. The critical reading activity, present in every unit, is called **Talking About ....** So in Unit 25, after a text on the killing of dolphins and whales, there is a "Talking About ..." first asking students to relate the issue to one in Unit 20, then a "write down ... arguments in favor" and against, followed by a class debate, and finally a "Develop the idea suggested in paragraph thirty" type of question.

Ladousse's more recent (1987) but much shorter Reading Intermediate does mention "responding in an intellectual or emotional way" in her introduction to the teacher. This book is less explicit than Dubin & Olshtain's in that it provides hardly any explicit teaching about strategies, though it does practise using them. (Incidentally neither text really develops **conscientização** - awareness of how and why strategies or critical reading operate -in the sense of Scott 1986). Ladousse's text often attempts to relate text content to the reader's life, for example when discussing the topic of families and family trees, and has some exercises called "Discussion" or "Reading and discussing". These are similar to the approach of Dubin and Olshtain.

Now it is quite clear that these recent textbooks are not in fact **teaching** critical reading. All they are doing is providing a context and a stimulus, a to some extent controversial stimulus, with an explicit suggestion to the teacher and students that there should be discussion. This is really no more than "testing": not of course that there are grades awarded for the quality of discussion, but in that it is presumably hoped that by making students carry out a task they will get good at that type of task, and perhaps will tend to do it spontaneously in life outside the classroom. The activity is presumably also intended to be fun, and it introduces more variety than there would otherwise be in the materials.

The problem is, how does the non-critical student ever become critical in such an approach? It is possible that the process of osmosis inherent in this kind of materials may in some cases have the right effect, but surely a more typical process is this: some students who are more articulate and more critical, perhaps from more critical home backgrounds, tend to run the discussion. The teacher is delighted to have these responses emerging - the discussion activity is a success - and does not worry too much about those who have little to say or who come up with rather naive reactions. The weaker students either learn from example (osmosis) or else are confirmed in their poor self-estimation.

6. A FIRST TRY

Faced with this lack of teaching of critical reading, the first author of this paper began to think about how to develop a more complete set of questions to be used in the teaching of critical reading. This first try was still inadequate, for reasons which

will be clear as we proceed, but at least it got further than the "Discuss ..." approach, which in essence is only "What do you think about it?".

Thus a set of questions[5] emerged in an attempt to systematize and break down some sub-skills in critical reading:

1. What did you LEARN from the text?
2. What is the intended READERSHIP for this text?
3. Who BENEFITS or LOSES by the publication of the text?
4. What was NOT MENTIONED?[6]
5. Do the FACTS support the ARGUMENT?
6. Is the text INTERESTING?
7. Is the information or argument APPLICABLE here to us?
8. Is the presentation ELEGANT, CONFUSING, ATTRACTIVE, etc.?

Now there are a number of problems inherent in these questions. First, they are not in any clear order.

It seems possible to distinguish several aspects of the kinds of question in this set. Some questions refer to properties of the **reader** for which the writer can hardly be expected to take any responsibility. Examples of these are the reader's individual advantage question (number 1), the "Reading for Application" question (number 7), and numbers 6 and 8 which seem to ask for a personal reaction in terms of likes and dislikes. If the answer is "disappointing" (the reader learned nothing, or found the text boring or unattractive) the writer can shrug his shoulders with regret but need not feel diminished as a writer.

If however the reader fits squarely within the category of intended readership (number 2) and the answer is still "disappointing" the writer must now take responsibility - his text has been judged somehow deficient.

Questions 3, 4 and 5 refer much more to qualities of the **text** itself. The writer is always responsible for his stance, omissions and logic. It is these three aspects which will be developed in the rest of this paper. The others are still useful questions to ask, and do not, we believe, require much in the way of teaching other than their existence as questions.

So we are now in a position to reduce the first problem - that the questions are not in order - by reordering them as follows:

Readership:

1. What is the intended READERSHIP for this text?

Reader's Appreciation:

2. What did you LEARN from the text?
3. Is the text INTERESTING?
4. Is the presentation ELEGANT, CONFUSING, ATTRACTIVE, etc.?

Applicability to the Reader:

5. Is the information or argument APPLICABLE here to us?

Text or Writer Questions:

6. Who BENEFITS or LOSES by the publication of the text?
7. What was NOT MENTIONED?
8. Do the FACTS support the ARGUMENT?

A second problem is more philosophical: how can the applied linguist talk of "deficient" text? If a text is found **inelegant** or, **confusing** are we not abandoning linguistic relativism if we agree? The whole climate of descriptive linguistics since Saus-

sure has encouraged us to believe that there is no such thing as "wrong" language, merely language which is attested and language which is abnormal in that it does not tend to occur. We accept "I ain't" as regularly attested in the speech of many native speakers and reject "No am" as not attested.

Now it is quite evident that in the real world speakers and readers certainly do find some text styles **inelegant, uplifting, attractive,** etc. Text may be **efficient** in achieving its aims, too. An invitation to a Buckingham Palace or White House ceremony which contained the item ain't would certainly lose efficiency as well as elegance: the intended readership might very well doubt its authenticity and not show up!

Somewhat closer to home, in this very text on page 3 above there are two two-word sentences neither of which contains a finite verb ("Hence journalists. And teachers."). You may well have been distracted or found this too colloquial for formal academic text. The writer put them in because he thought them "punchy" and because he wanted the change in rythm. If you did not like this informality, we submit, that is your problem - not the writer's.

But if you find spelling mistakes in this paper, or if you complain that there is nothing new in it and that it is not interesting, the writers will feel hurt - assuming that you are within our intended readership of EFL professionals - and will have to take responsibility as having produced text which is somehow defective.

This problem is not resolved at all easily. Part of the solution is hidden somewhere in sociolinguistics; despite Firth's pleas for a polysystemic model, we have operated with a restricted, monosystemic model reflected in terms like "the English language", "Portuguese", etc. There are in reality many "Englishes" and "Portugueses" conditioned by a host of sociological factors including nation, class, register, etc.

Nevertheless, the problem of the status of "ineffective" or "boring" text remains, and it is hard to imagine any kind of sociolinguistic solution. One pseudo-answer is simply to assert that the problem belongs in the province of philosophy, subprovince aesthetics, and to leave it to the experts! Unless they can solve it for us the hole in our own EFL professional road still remains.

The third problem in the questions is a much more practical one, and relates particularly to the last three, the Text or Writer Questions:

6. Who BENEFITS or LOSES by the publication of the text?
7. What was NOT MENTIONED?
8. Do the FACTS support the ARGUMENT?

How do we teach them? This problem, interestingly, is part of a common problem in EFL methodology, though an unfortunately seldom-recognized one. We refer to helping not the students in a class who really need help but those who need it least. All too often materials present related items (phrasal verbs, verb forms, colour terms or whatever) all together, which can be predicted to confuse students who either did not know the items or were uncertain of them. The only students who can benefit from the "for completeness' sake" syndrome (Scott, 1981:8) are those who al-

ready knew the items well already.

> Unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath. (Matthew 25:29)

The student who hath a critical ability shall acquire even more because she will know how to answer questions 6, 7 and 8, while she that hath not may very well lose confidence.

7. A SECOND TRY

In workshop discussion with colleagues[7] these questions were further enlarged to bring out some related points.

Additional questions suggested by the groups and now inserted into the above categories were:

Comprehension

1. What is the main message?
2. What effect do the illustrations have?
3. What relation is there between title and illustration, or title and text?

Readership:

4. What is the intended READERSHIP for this text?
5. What kind of people are likely to be influenced by the text?
6. Does the author presuppose some previous knowledge of the subject?

Reader's Appreciation:

7. What did you LEARN from the text?
8. Does the text arouse any feelings in you (eg. INTEREST)?
9. Is the presentation ELEGANT, CONFUSING, ATTRACTIVE, etc.?
10. Would you choose to read this text?
11. Do you agree with the author's opinion?
12. Which side do you agree with?

Applicability to the Reader:

13. Is the information or argument APPLICABLE here to us?
14. Did you have the previous knowledge you needed for the text?
15. How do people benefit from reading the text?

Text or Writer Questions:

16. Who BENEFITS or LOSES by the publication of the text?
17. Who or what was NOT MENTIONED?
18. What implications do the omissions have?
19. Do the FACTS support the ARGUMENT?
20. Does the writer prove his point?
21. Do the people and facts mentioned really support the author's ideas?

The latter group of questions (16-21) are the subject of the rest of this paper. To discuss them we propose to try to develop three main topics: gains and losses, logic, and set theory.

8. WHO BENEFITS AND WHO LOSES?

Question 16 presupposes that any text will, whether the writer knows it or not, end up benefitting some group or agency or individual, while others will lose out. A convenient hypothetical example is the magazine article which reports on a discovery in medicine - let us[8] say a cure for high blood pressure. The article will usually mention the names and places of work of the medical team.

In this case several parties gain: obviously the medical team and their institution, but perhaps less obviously those who suffer from high blood pressure gain not just the cure but the publicity. Importance is attached to them by the very publication of the text. Note that we are not claiming that they do not deserve such publicity, merely commenting that it is made. Sufferers from multiple sclerosis or loss of skin pigmentation lose out, relatively, in this case. Of course multiple sclerosis sufferers may well gain from other articles, where pigmentation and blood pressure patients lose out in turn. However, any medical specialist will confirm that there are highly-mentioned conditions (multiple sclerosis, blood pressure, AIDS) and less highly-mentioned conditions (skin pigmentation is one) - and a connection with research grants.

Who else gains from our hypothetical example? Men, if the doctors' names are male, the French, if the discovery was in France, and so on. The losers in such a case are those who could have been mentioned but were not: women, researchers in other institutions, etc.

Over a recent period of 6 weeks' regular reading of the Guardian newspaper in England, with careful scrutiny of the overseas news pages, the first author noted that there were almost no articles at all about Brazil, apart from mention of disturbances in Serra Pelada. During the same period there were frequent accounts of events in the Lebanon, Nicaragua, the Gaza Strip, the Soviet Union, and the USA. In the latter two cases the news was mainly either mood pieces (what it's like under perestroika in Moscow) or weather events (blizzards in the USA). Obviously Brazil (and Paraguay, Mongolia, Timor, etc.) lost out during that period. Israel, on the other hand both lost and gained: the news stories criticized Israeli treatment of the Gaza Strip Palestinians but still attached importance to Israel by mentioning the country. Even bad publicity is publicity.

One result of this unequal mentioning (which itself reflects the international political power structure as well as the distribution world-wide of disasters and wars) is endurance of stereotype. The average Englishman knows from school-age that Brazil has a lot of jungle, samba, Brazil nuts, Indians, coffee. The media tell him additionally about soccer, the occasional vendetta in the North-East or mother of quintuplets, AIDS, overseas debt, and favelas. He will usually remain in ignorance of the fact that Brazil's economy is the 8th largest in the world, and that there are Japanese-Brazilians, traffic problems, coldish winters and skyscrapers: not mentioned because they are not "news-worthy".

Asking question 16 does nothing to alter the status quo or to do away with stereotype. The point of asking it is to raise

awareness that even dry factual scientific texts do end up benefitting some and failing to benefit others, and preserving stereotype in our view of places and people we have not had the opportunity to meet, and their relative importance.

9. LOGIC

Question 19 to 21 ("Do the facts support the argument?" and its variants) are another important aspect of critical reading. There is a whole literature on this, and no attempt is made here to outline the kinds of logical question, other than to refer the reader to Thouless (1974) where a clear and practical treatment is provided. In particular, Thouless provides an appendix (1974:192-199) listing 38 "dishonest tricks which are commonly used in argument, with the methods of overcoming them". They include:

1. The use of emotionally toned words.
2. Making a statement in which 'all' is implied but 'some' is true.
3. Proof by selected instances.
11. The use of an argument of logically unsound form.
28. The appeal to mere authority.

(Thouless' complete list is provided on pages 28-29 below.)

Thouless' list is clearly aimed at spoken argument, but many of the 38 dishonest tricks he mentions are also used in writing.

As with much of our ESP work, ideally this sort of analysis ought to be part of the regular school curriculum. We propose in this paper only to deal with a few aspects where there are easily-located linguistic markers to guide ESP students.

Since writers have to select what to say, they may very well do some of the following:

Logic-Related Distortions	**Markers**
over-generalization	all, some, most
exemplification of 1 side only	for instance such as " ... "
quoting 1 side only	
argument from authority	famous names
doubtful logic	therefore, so
false analogies	like, akin
lack of explanation	no as, because
vagueness	passive voice

We may illustrate some over-generalizations from a text on the radio, which can be found on page 19 of this paper.

The sentence beginning paragraph two: "Radio offered cheaper and easier entertainment to more people than any other arrangement yet devised" is a classical generalization. It is not signalled with all, some, or most, but with yet: it suggests that radio was cheaper and easier than all other kinds of entertainment from the beginning of history to 1969 when the text was published. Is this true? What about dancing? Cheaper than radio, perhaps not easier. What about children's games? Free, and uni-

versal since history began. What about reading? Surely a rival to the radio in many ways, though not easier. The generalization in the text is not incontestable.

What of "The small voice of reason or the noisy trumpetings of doom could with equal ease be heard in every corner of the earth."? Not even in 1969 had radio reached "with equal ease" all the corners of Africa and Asia ...

The last sentence is another generalization, signalled by mainly, most, and almost any. It suggests that commercial interests chose sponsorship of entertainment as the most effective way of selling their products. What about the direct advertisements preceding and following their sponsored shows: not usually entertainment but suggestion.

This is not to suggest that these generalizations are false (in essence they may be broadly true, though over-stated) or that they were deliberately written to trick the unwary reader - it is to illustrate the possibility of raising student awareness of how over-generalization may lead the reader into passive acceptance. We can question the extent of a generalization without necessarily rejecting a weaker form of it.

Exemplification of 1 side only is easily spotted, as is the next, quoting 1 side only.

Argument from authority has a venerable history. When strange "savages" were reported as having landed in Europe in the Middle Ages, the first procedure of those in charge was to consult the works of Plato for ideas as to who they might be, instead of examining the "savages" themselves. It is a temptation to trust in a quote from Chomsky to quell disagreement or to suggest infallibility (a trick that Chomsky himself would certainly not hold with). Arguments which rely on the opinion of famous names are no "truer" than the same arguments without them! The marker is the presence of the famous name itself.

Any use of therefore and often so will signal some kind of logical inference or deduction, and the words like and akin often signal a comparison or analogy. There is no simple solution proposed here: the reader must make up his own mind as to whether the analogy is forced, the premisses correct, and the inference legitimate.

The reference to "no as, because" means that in certain contexts, where one might expect an explanation, it may be missing. Take this example from the "Important Notes" in instructions for a television set:

> "Ao desligar o televisor através do controle remoto, ele permanecerá na condição de "espera" (luz 14 acesa). Embora nesta situação apenas uma parte do televisor esteja em estado de "prontidão" e seu consumo seja desprezível, recomendamos desligá-lo totalmente (tecla 8) quando você ausentar-se por período de tempo muito grande." (Telefunken, 1985:10)

There is, it seems, no explanation provided, as to why one should disconnect the television when leaving it for a long time, if the power consumption while in a state of "waiting" is negligible. Presumably the missing explanation is not provided either because it would complicate the text or because the explanation is too technical for the ordinary user of the tv set.

Finally, the "vagueness" of the passive voice, and other structures (eg. nominalizations). In most uses of the passive, the agent is not specified, which makes the structure impersonal. This is "vague" in the sense that we are not told who did the action. The classic case is newspaper reporting, where we often read that decisions have "been taken" (sometimes accompanied by the immortal words "at the highest level", or "reliable sources report that ...").

These items are not always easy to work on. The student who can detect over-generalizations or vagueness or missing explanations may require considerable linguistic resources in the shape of vocabulary, as well as background knowledge, to detect such features. They are worth working on, all the same, within a context of critical reading, and in many cases can still be recognized by students with a low vocabulary threshold.

However, the following section deals with a technique which we believe can be handled fairly easily by beginners and advanced students alike, so after many pages of preliminaries, let us get to what our title promised, set theory.

10. SET THEORY

Although the term is familiar in mathematics and philosophy, it needs some explanation and justification as an ESP innovation. The notion **set** implies **membership**, and so the first need is to establish what sets are and what their members are.

The members of sets are initially those entities actually referred to in a piece of discourse. Perhaps the simplest example is a telephone directory in which there are many items such as Smith, Jones, Robinson; High Croft Ave, Main St, Oxford Road; 244563, 356336, 669050 etc. These items belong in groups, which in the phone book appear in a fixed layout arranged vertically. The items thus form sets, which could be entitled "Surname", "Street Name", "Phone Number". Such sets are fairly conventional, and indeed characterize the type of texts called "colony texts" (Hoey, 1987).

The concept of "set" in mathematics is, similarly, related to lists, collections or groups of well-defined objects. The elements of a set can be anything: numbers, people, letters, rivers, colours, etc. In our ESP context we shall think of a set as

> **a group of entities referred to in a text, where the reader decides that the entities belong together.**

For example, in a text on the French Revolution, the reader may decide that certain people (Danton, Robespierre, etc.) belong together in a set of **leaders**, or that salt taxes, forced labour, bad harvests, etc. should be grouped as **causes**.

There are types of set which recur fairly frequently in many texts, such as people involved, times, places, names, problems and prices. Readers will have no difficulty spotting why these "belong together".

Other sets may depend much more on the text content - salt taxes and bad harvests might not otherwise belong together in any

set - or on the reader's perception. Different readers may well spot different sets in the same text.

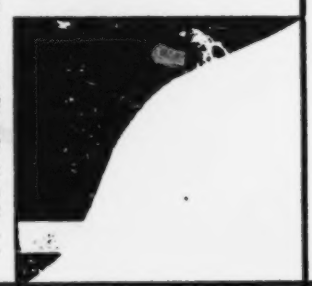
Let us take an example from a real text to make this clearer:

EATING OUT

BRAZIL Brazil offers a variety of foods from national dishes like feijoada (black beans and pork) to African and European dishes. Brasilia in particular has generated a cosmopolitan flair, reflected strongly in the city's fine restaurants and in the delicious Brazilian and international cuisine they serve.

In the state of Bahia, on the east coast of Brazil, food traditionally features chicken, fish, prawns and a variety of other seafood, and takes an Afro-Brazilian flavour.

The Amazonas is the world's largest hydrographic basin filled with an extensive variety of fish and the meat of these fish provide the main ingredient of Amazonia cuisine. A great variety of fruits are also grown in the Amazon with exotic names and flavours ... "cupuaca", "jenipapo", "biriba", "graviola".



EGYPT The cooking and serving of ' in Egypt is an art intr v ancient Egyptian 's of years ago

to be entertained whil offer belly-dancing/floo but in such establishm ably more on your p

JORDAN M

offered o Musak' Arab

Source: South Magazine No. 85, Nov. 87

The text generated the following sets:

Figure 1: Sets in Eating Out

Places

Africa	Brazil	Europe
.	Brasilia	.
.	Bahia/East Coast	.
.	Amazonas	.

Eating in Brasília	**Eating in Bahia**	**Eating in Amazonia**
fine	chicken	fish
restaurants	fish	fruit
Brazilian	prawns	
cuisine	seafood	
international	Afro-Brazilian	
cuisine	cuisine	

Dishes

National	**African**	**European**	**International**
feijoada	.	.	.

Ingredients

seafood	**fruits**	**other**
fish	cupuaçu	beans
prawns	jenipapo	pork
	biriba	
	graviola	

Thus the text Eating Out can be seen as interlinked sets of concepts related to food, (ingredients and dishes) and to different places, mainly in Brazil.

For the reader to comprehend and to evaluate the text critically, it is necessary for him to see relationships between entities mentioned in the text, as has been clear for a long time (cf. Beaugrande & Dressler, 1981), whether or not he is consciously using set theory as we are doing here. So, for example,

the reader obviously has to realize that Bahia is a "place" in Brazil, and indeed this is made quite explicit at the beginning of paragraph two.

However, if the reader also sees Bahia as part of a conscious set, he can also realize that several different place elements have been mentioned, but others have not. The reader may thus question the absence of other types of dishes based on his previous knowledge about Brazil. And the reader who has no previous knowledge of Brazil or of Brazilian cuisine should still be aware that a set of Brazilian places has been mentioned, and infer that others exist but have been omitted: it is not possible that any country (with the possible exception of Caesar's Gaul) should contain only three "places".

What of the links between sets? In this case, the main link is between places and foods: that is the point of the text. To be explicit: the main sets (in mathematics "super-sets") are places, dishes and ingredients - we know they are "main" because most of the space in the article is devoted to these three - and they are interlinked: the writer is telling us about which dishes, using which ingredients, are available in which places.

However, there are also **hierarchies** linking sets. Each element of a set may generate either a sub-set containing elements or a sub-set containing no elements, that is, an **empty set**. Observe that the set **dishes** which contains the elements: **National, International, African, European** gives rise to four sub-sets: one with the single item of National food which has been mentioned in the text, and the other three without any elements at all - empty sets. This relationship may indicate to the reader that there are elements missing, that is, elements which have not been mentioned and that could be present. It is up to the reader to provide these missing elements and decide on the reasons for the omissions.

To construct all these relationships the critical reader may refer to the idea of a universal set, that is, all the concepts that could be present in a set. Of these, the reader usually knows of some (for example other places in Brazil), and also knows that he doesn't know of others (even a Brazilian will not know all the fruits in the country).

The following diagram (Figure 2, page 16) may clarify the idea of the insertion of this text in a universal set of concepts. The shaded area around the text refers to **all existing concepts that could be in the text**, such as other Brazilian dishes, other Brazilian cities or States, European dishes, types of fish, etc. This idea is related to the concept of a universal set in mathematics. The critical reader refers to the universal set in his mind to complete the missing elements.

This "universal set" is rather important, since **it is by referring to the universal set that the reader answers the question: Who or what was NOT MENTIONED?** Even where the reader's knowledge of the topic is limited, he should still have some related categories which are not mentioned or implied in the text.

Figure 2: The Universal Set

EATING OUT
BRAZIL Brazil offers a variety of foods from national dishes like feijoada (black beans and pork) to African and European dishes. Brasilia in particular has generated a cosmopolitan flair, reflected strongly in the city's fine restaurants and in the delicious Brazilian and international cuisine they serve.
In the state of Bahia, on the east coast of Brazil, food traditionally features chicken, fish, prawns and a variety of other seafood, and takes an Afro-Brazilian flavour.
The Amazonas is the world's largest hydrographic basin filled with an extensive variety of fish and the meat of these fish provide the main ingredient of Amazonia cuisine. A great variety of fruits are also grown in the Amazon with exotic names and flavours ... "cupuaca", "jenipapo", "biriba", "graviola".

The sets identified in Eating Out are all fairly intuitively "obvious": anyone will surely agree that there is a set of places, a set of fruits, etc. "in" this text. It is quite possible that you would have classified things slightly differently - but not very differently. You may feel unhappy with our set-label "ingredients" and the sub-division into "seafood", "fruits", "other". Fortunately, this does not really matter - mainly because the same individual who "sets" the text also reacts to it critically.

What of more idiosyncratic sets? For example:

Figure 3: More Sets in Eating Out

amounts	praise	prepositions
a variety of	cosmopolitan	of
largest	flair	to
main	fine	in
	delicious	on
	exotic	with

The text refers to amounts (a variety [twice], as well as an extensive variety, and a great variety), and more subtly indicates variety by the typographical convention ..., and by listing foods, and, at the end of the text, fruits. It refers to amounts indirectly by suggesting that fish provide the main ingredient (not so much variety there!), and by stating that the Amazon is the world's largest hydrographic basin.

How useful is it to perceive this set labelled **amounts**? How useful is our set of **praise**?

The usefulness of the set is in the eye of the beholder, so to speak. We would argue that almost any set can be useful, because of the universal set referred to above. The purely grammatical set of **prepositions** is less likely to be useful for the kinds of purpose we have in mind in text comprehension and critical reading: in terms of meaning, it does not illuminate to notice, for example, that the set of prepositions makes no reference to above, below, or without. It may be useful, though, to notice that the very construction of a set of praise-concepts itself implies a set of "damn-concepts", absent in this text. It may be worth-while to see that the **amounts** are all large, not small ones.

Thus the first, and main purpose of the construction of sets, is to refer back to the universal set and see "what is missing": question 17, page 7.

Another procedure the critical reader may make use of is to count the number of lines devoted to each element of the set or sub-set. If the reader considers the element **Amazonas** in the set **Places**, he realizes that eleven lines have been devoted to this part of Brazil. Five lines have been devoted to Bahia and three to Brasília. This indicates that a priority has been given to the Amazon region in detriment of the other places mentioned, and especially of places that have not been mentioned at all, such as Minas Gerais, Rio de Janeiro, etc. The reader who knows of them may wonder why elements such as "feijão tropeiro", "churrasco"

have not been mentioned, and the reader who doesn't may at least suspect that some regional foods may have been missed out.

This highlights the importance of the reader's previous knowledge, that is, familiarity with the subject-matter of the text (discussed in more detail in Pimenta, 1987).

In a text about traditional Jordanian food, for instance, the typical Brazilian or British reader could only try to establish the missing elements by asking: Are there other elements related to food which have not been mentioned ? What might they be? The critical reader will thus evaluate the implications the omissions might lead to. He will search for possible answers to the question "Who loses and who gains by the publication of the text" (question 16, page 7). In our particular example, the state of Amazonas will have gained publicity in the mind of the reader of South, at the expense of others such as Rio de Janeiro, São Paulo, Minas Gerais, etc.

Let us see what implications for the teaching of reading can be drawn at this stage. We may immediately suggest 6 steps:

1. Grouping concepts into sets.
2. Deciding which the main sets are: the most prominent ones. (title, illustrations, item frequency, etc.)
3. Identifying any relationships between sets (links or hierarchical relationships).
4. Identifying the possibly/certainly missing elements of each set in relation to the universal set.
5. Measuring the emphasis devoted to each element of the main sets in the text (eg. by counting lines).
6. Deciding why the writer omitted members or devoted little space to each member of a set.

Let us take two further texts, which deal with the same topic, and attempt a "sets" analysis using the six steps outlined above. We would like to point out that analysing the sets in two texts at once is not a procedure we are necessarily recommending for class, though once students have grasped the idea and can do "sets analysis", doing it on two texts at once might be feasible. Secondly, this is **our** sets analysis: yours might be different, and students' analyses would depend a lot on their comprehension of the texts.

Radio Ga-Ga

Roger Taylor QUEEN

Radio
Radio

I'd sit alone and watch your light
My only friend through teenage nights
And everything I had to know
I heard it on my radio

You gave them all those old time stars
Through wars of worlds invaded by Mars
You made them laugh, you made them cry
You made us feel that we could fly
(Radio)

So don't become some background noise
A backdrop for the girls and boys
Who just don't know or just don't care
And just complain when you're not there
You had your time, you had your power
You've yet to have your finest hour
Radio (Radio)

All we hear is radio ga-ga, radio goo-goo
Radio ga-ga
All we hear is radio ga-ga, radio goo-goo
Radio, what's new
Radio, someone still loves you

We watch the shows, we watch the stars
On videos for hours and hours
We hardly need to use our ears
How music changes through the years

Let's hope you never leave old friend
Like all good things, on you we depend
So stick around, cause we might miss you
When we grow tired of audio-visual
You had your time, you had your power
You've yet to have your finest hour
Radio (Radio)
All we hear ...
Radio ga-ga (3 times)
You had your time, you had your power
You've yet to have your finest hour
Radio (Radio)

Radio: A Universal and Necessary Habit

Like the movies and the auto, the radio began as a mechanical plaything. But with more dramatic swiftness than either of the others, it fixed itself on the public as an almost universal and necessary habit. Only a very few years separated the first broadcast from KDKA, Pittsburgh, in 1920, the development of the chain system of broadcasting in 1926, and the estimated ten million receiving sets in use in 1928.

Radio offered cheaper and easier entertainment to more people than any other arrangement yet devised. It offered more than that, of course; it was a vital means of communication with a wide range and variety of expression. The small voice of reason or the noisy trumpetings of doom could with equal ease be heard in every corner of the earth. What usually filled the air waves from American stations was something safely within those limits. Programs sponsored by commercial interests, mainly concerned with selling a product of almost any nature, chose entertainment as the most effective agency for this purpose.

Text extracted from: Our Wonderful World, vol.14, New York: Grolier, 1969, p. 25.

Step 1: Grouping Concepts into Sets

We have taken the opportunity here of presenting the sets as they occur, with the song on the left and the encyclopaedia prose on the right. The numbers in brackets indicate our answers to step 5: measuring emphasis, which we have done crudely by counting numbers of lines.

Radio Ga-Ga	Radio: A Universal and Necessary Habit
Feelings	
hope (1 line)	doom (1)
grow tired (1)	.
laugh (1)	.
cry (1)	.
feel (1)	.
don't care (1)	.
complain (1)	.
loves (1)	.
miss (1)	.
Alternatives to the Radio	
videos (4)	movies (1)
audio-visuals (1)	auto (1)
Advantages of the Radio	
.	universal (3)
.	necessary (2)
.	plaything (1)
.	cheaper (1)
.	ease (2)
.	entertainment (2)
.	means of communication (1)
.	wide range (1)
.	variety of expression (1)
People	
I (4)	people (1)
we (10)	the public (1)
boys (3)	commercial interests (1)
girls (3)	.
you (11)	.
stars (1)	.
friend (5)	.

Senses

hear (7)	.
ga-ga (6)	.
goo-goo (6)	.
watch (5)	.
videos (4)	.
ears (1)	.
audio-visual (1)	.
noise (2)	noisy (1)

Time

through teenage nights (1)	Only a very few years (1)
old time (1)	1920 (1)
finest hour (3)	1926 (1)
still (1)	1928 (1)
for hours and hours (1)	.
through the years (1)	.
yet (3)	.
when (1)	.

Astronomy

nights (1)	.
Mars (1)	.
stars (1)	.
worlds (1)	.

War

war (1)	.
finest hour (3)	.

Places

.	Pittsburgh (1)
.	America (1)

Transmission by Radio

background noise (1)	broadcast (2)
power (3)	chain system (1)
.	receiving (1)
.	air waves (1)
.	stations (1)
.	programs (1)

Please note that although we have mostly used the original words straight out of the text, we are in fact "setting" the **concepts**, not the **words** themselves. Thus <u>universal</u> (under **Advantages of the radio**) refers to the phrase "<u>in every</u> corner of the earth" as well as to the word "universal" - and so scores (3).

Step 2: Deciding Which the Main Sets Are

For Radio Ga-Ga, the main sets seem to be **Feelings**, **Senses** and **Time**, judging by the size of the sets and the emphasis attached to each set member. For Radio: A Universal and Necessary Habit, the main sets are **Advantages** and **Transmission by radio**. The titles of both texts match this decision.

Step 3: Identifying Relationships Between Sets

In the encyclopaedia text, the **Advantages of the Radio** are contrasted with **Alternatives to the Radio**. But in Radio Ga-Ga there are more subtle, interesting links: the sets **People** and **Astronomy** are linked by the item stars which belongs with both (the same would happen in Portuguese with the item estrelas); and **War** is linked with **Astronomy** through "wars of worlds", and at the same time to **Time** through "finest hour" (an echo of Winston Churchill holding the British nation together in World War II, largely through the radio).

There are empty sets in each text: no drawbacks of radio in the encyclopaedia text, no places in Radio Ga-Ga. Neither text specifies people by name (the only name in either text being the "name" of a radio station, KDKA).

Step 4: Identifying Missing Elements

Here each set would allow further elements: there are always missing elements, and it is logically impossible for any text to be "complete". Some examples can be provided for each set:

Radio Ga-Ga: hate, cinema, Marconi, touch, early morning, Venus, battery-powered

Radio: A Universal and Necessary Habit: pleasure, silence, international, Marconi, dates after 1928 or before 1920, Italy, short-wave

Step 5: Measuring Emphasis

This is already shown in the setting, where numbers of lines appear in brackets after each set member.

Step 6: Deciding Why Members Were Omitted

This procedure is in effect an analysis of implications.

In the first place, the reader will observe from the sets of the encylopaedia text that no drawbacks were mentioned. The radio is portrayed as a perfect entity, with so many advantages, and no disadvantages, that it is dubbed "necessary". There is no explicit problem of censorship, for American stations at least, where radio content is "safely within .. limits". Nor is there any mention of political manipulation (Goebbels was an early "expert" at that), and the commercial manipulation of advertisers is associated with entertainment. The role of non-Americans (eg. Marconi) in the development of radio is ignored, yet the text does start its chronology with a "first" radio transmission.

These are important aspects of an encyclopaedia entry, but were not mentioned, though space would have permitted somewhat less praise and somewhat more doubt and/or history.

The song is clearly much more subjective: it even calls the radio "you". The feelings are not all positive, and the senses (if that is what goo-goo and ga-ga are) present a fine variety too. Time is not historical, but personal, with an echo of nostalgia. It would have been possible for the author to refer to the same sorts of manipulation as we refer to above: the song would then be a protest song, not a nostalgic song of praise.

11. THE STATUS OF "SET THEORY"

We have seen set theory in action. It is time now to dot a few Is and cross a few Ts.

1. Set theory is not note-taking

The sets as shown on pages 20-21 above are not the same as a set of notes. To do a set analysis it is not necessary to work out what the text is trying to say in terms of main points and subordinate details. It is only necessary to understand some of the lexical items in the text and try to put them into one's own categories. The set analyses presented in this paper are fairly full - we are introducing the idea, after all, and to readers of a high English language competence - but it is perfectly possible to work quickly and in terms of few sets.

The set members could very well be expressed in another language other than that of the text, for example the reader's native language. As they are, they represent **concepts**, not **words**.

As concepts in the text, of course, they may come in useful for note-taking. Thus set analysis may be a good preparation for note-taking, though it is not a substitute for it. The purpose of note-taking is to reduce a complex text to its main ideas, while the point of sets analysis is just to **process** the concepts in the texts, in order to facilitate critical reading.

2. Set theory is not a magic wand

Analysing sets will not solve many problems, but it should help readers to see what was emphasized and what was not mentioned in a text. It is particularly this last question, what was not mentioned, which is so hard to answer when one is faced with a text, unless it is a text about a very familiar topic indeed.

3. Analysing sets is a simple technique

By breaking a text up to find sets and set members, the reader is doing several things which in our opinion are definitely beneficial.

First, he is doing something which is quite easy. This helps build up confidence in his abilities to cope with the ESP class.

Second, he is getting away from the text itself, stopping worrying about understanding every detail and all those unknown

words.

And third, he is **processing** the text, somehow relating content-words, the concepts in the text, to his own knowledge and his own way of seeing the world. Different readers will do it differently. This processing the text is fundamental to comprehension, as we know from theorists such as Kintsch and van Dijk (1978), yet there has been no application (to our knowledge) of these theoretical advances into the classroom: teachers have concentrated on grammar, vocabulary, and exhortation, without being able to show readers how to process texts.

Set analysis is essentially a de Bono-like[9] device for provoking the brain to re-organize the concepts in the text, and it helps the reader to come up with a wider context - the universal set - which could have been included but wasn't. In so doing it makes the reader aware of missing concepts, and he can then decide whether the concepts presented really give a fair and true picture.

4. Set Analysis alone is not critical reading

Doing an analysis, as we have described it, is a stepping-stone towards critical reading. The other aspects of critical reading developed in the sections preceding section 10 are just as important: but set analysis may well be one of the easiest techniques, requiring less in the way of logical sophistication or knowledge of English vocabulary.

5. Analysing sets is not "authentic language behaviour"

Writing set members down is certainly not "authentic language behaviour". Perhaps critical reading itself is not "authentic", as very few people learn to do it: the evidence suggests that many people think of reading as a rather boring and frustrating search for facts in books. Critical reading is much needed, as argued on page 3 above, and set analysis is an artificial classroom device which prepares the way for what we would very much like to be "authentic", autonomous critical reading.

6. Sets are not linguistic, but socio-psychological entities

The status of sets in Applied Linguistics is not as a key to collocation, the study of the text relations between given lexical items. Rather, sets are entities grouped by the reader according to his own principles. That it is possible for readers to agree on their sets (for example, working together in pairs or small groups), is because of similar socio-psychological associations, developed in the context of particular social structures, or cultures.

7. Set theory can be applied in any language, to any text

Ideally, we believe, set theory ought to be presented (with a less daunting name!) to children reading in their native language. The notion is quite simple, and even young children have plenty of knowledge, and set-oriented mental operations. The evidence for this is that children clearly classify the world they live in, a classification which is evident when they mislabel, for example calling any and every quadruped "horse".

We have applied the theory to two pieces of prose and a song. It applies to advertisements, invitations, catalogues, manuals, too. It certainly applies to literary text, though not all litterati will wish to use it on their works of art.

8. Set analysis helps comprehension

We have observed that starting with the task of grouping the concepts developed in the text into sub-sets enables the reader to grasp the overall meaning of the text. The identification of existing relationships between the sub-sets makes the reader comprehend the text even further. At this point he is able to perceive relationships between time and event, time and place, cause and effect, people and institutions, countries and discoveries, spacecrafts and discoveries, industries and their products, objects and their importance and so on.

12. PEDAGOGICAL POINTS

We have already suggested and applied six steps for carrying out set analysis. However, the student who is unfamiliar with the procedure will need some preparation and help. As far as the ESP classroom is concerned, we would suggest the following procedures:

1. Present readers with a text in their native language. Show them how writers already operate with sets: a good example is the list, such as the list of fruits in the Eating Out text, page 12.
2. Have readers group concepts into sets, identify relationships between the sub-sets, identify the missing elements of each sub-set, count the lines devoted to each member of the sub-set and analyse the implications of omissions and space devoted to elements of the sub-sets.
3. Repeat the procedure above with a text in English, but with some guidance. For example, provide readers with labels for some possible sets. Ensure that the text is on a familiar topic (eg. the radio!)
4. Repeat procedure 2 with a text in English, withdrawing the guidance.

CONCLUSION

In section 2, we stated that this paper would make four claims: that critical reading is an essential part of the genuine response to text; that there is a need for teachable techniques for helping readers to learn how to react critically to texts; that critical reading can and usually should be done on all text types from poems to telephone directories; and that critical reading is applicable not only to a detailed level of comprehension but also to general and to main points comprehension.

We believe this first presentation of set theory goes some way towards substantiating these claims, and have tried to show, based on our own experiences in class, how teaching materials can implement set theory and the other critical reading techniques. We would be grateful for feed-back on these suggestions.

Critical reading is of practical importance. It is essential to help our students to develop their critical thinking and critical awareness, and since reading as an activity provides them with the opportunity to jump backwards or forwards in the text at their own will, we think critical reading is a valid means towards achieving critical thinking. There is a shortage of critical thinking in the world. Let us do what we can to help.

NOTES

1. The authors acknowledge the contribution to the ideas presented in this paper given by participants in workshops on Critical Reading in the Regional Seminars of the Brazilian National ESP Project in 1987. The notion of applying set theory to critical reading was stimulated by current work on lexical relations at Birmingham University, as reported by Murray Knowles at the July ESP Course at PUC-SP, 1987.

2. Note that Widdowson's usage differs from that normally adopted in the Brazil ESP Project:

> "Genuineness is a characteristic of the passage itself and is an absolute quality. Authenticity is a characteristic of the relationship between the passage and the reader and it has to do with appropriate response." (1978:80)

Our "authentic texts" would therefore be in Widdowson's terms "genuine texts", though it is fair to claim that the Project has always aimed also at an authentic response.

3. See Davies & Greene, 1984:138, for a comparison between traditional comprehension questions and their Directed Activities Related to Text (darts).

4. Leviathan, Part 1, Chapter 13.

5. Numerous MA students at PUC-SP helped develop these questions.

6. Swales (1985:7) gives a good example of what was not mentioned: a headmaster wrote the following one-line reference for one of his ex-teachers: "Mr. Jones was a teacher in my school last year, I think."

7. Regional Seminars of Brazil ESP Project, Brasília and Curitiba, 1987.

8. See Swales (1981:35-37) for discussion of this.

9. Edward de Bono has written a number of books on the topic of "lateral thinking", and has described several ways of provoking the brain to come up with fresh ideas. See de Bono (1976).

THOULESS' LIST OF DISHONEST TRICKS

1. The use of emotionally toned words.
2. Making a statement in which 'all' is implied but 'some' is true.
3. Proof by selected instances.
4. Extension of an opponent's proposition by contradiction or misrepresentation of it.
5. Evasion of a sound refutation of an argument by the use of a sophistical formula.
6. Diversion to another question, to a side issue, or by irrelevant objection.
7. Proof by inconsequent argument.
8. The argument that we should not make efforts against X which is admittedly evil because there is a worse evil Y against which our efforts should be directed.
9. The recommendation of a position because it is a mean between two extremes.
10. Pointing out the logical correctness of the form of an argument whose premisses contain doubtful or untrue statements.
11. The use of an argument of logically unsound form.
12. Argument in a circle.
13. Begging the question.
14. Discussing a verbal proposition as if it were a factual one, or failing to disentangle the verbal and factual elements in a proposition that is partly both.
15. Putting forward a tautology (such as that too much of a bad thing is bad) as if it were a factual judgement.
16. The use of a speculative argument.
17. Change in the meaning of a term during the course of an argument.
18. The use of a dilemma which ignores a continuous series of possibilities between the two extremes presented.
19. The use of the fact of continuity between them to throw doubt on a real difference between two things.
20. Illegitimate use of or demand for a definition.
21. Suggestion by repeated affirmation.
22. Suggestion by use of a confident manner.
23. Suggestion by prestige.
24. Prestige by false credentials.
25. Prestige by the use of pseudo-technical jargon.
26. Affectation of failure to understand backed by prestige.
27. The use of questions drawing out damaging admissions.
28. The appeal to mere authority.
29. Overcoming resistance to a doubtful proposition by a preliminary statement of a few easily accepted ones.
30. Statement of a doubtful proposition in such a way that it fits in with the thought-habits or the prejudices of the hearer.
31. The use of generally accepted formulae of predigested thought as premisses in argument.
32. 'There is much to be said on both sides, so no decision can be made either way' or any other formula leading to the attitude of academic detachment.
33. Argument by mere analogy.

34. Argument by forced analogy.
35. Angering an opponent in order that he may argue badly.
36. Special pleading.
37. Commending or condemning a proposition because of its practical consequences to the hearer.
38. Argument by attributing prejudices or motives to one's opponent.

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